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32864 7590 01/23/2009 FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER CHONG CRUZ, NADJA N	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/608,895	<b>Applicant(s)</b> WITTING, THOMAS	
	<b>Examiner</b> NADJA CHONG CRUZ	<b>Art Unit</b> 3623	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 November 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 10-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 November 2008 has been entered.
2. Claims 1, 15 and 22 have been amended.
3. Claims 1-8 and 10-22 are currently pending and have been examined.
4. The rejections of claims 1-8 and 10-22 have been updated to reflect the amendments.

### Response to Amendment

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.
6. The rejection of claim 22 under 35 USC § 112, 2<sup>nd</sup> paragraph is withdrawn in light of Applicant's amendment.

### Claim Objections

7. Claim 15 is objected to because of the following informalities: its appear to be that in the limitation *program instruction tangibly embodied in a computer-readable medium and comprising an assignment module, when executed by a processor, selects a second target group of customer from the **of customers** first target group....* the words "of customers" was supposed to be deleted as in claims 1 and 22. Appropriate correction is required.

### Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Art Unit: 3623

9. Claims 1-14 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Based on Supreme Court precedent and recent Federal Circuit decisions, 88 USPQ2d 1385 *In re Bilski* U.S. Court of Appeals Federal Circuit. A method claim must meet a specialized, limited meaning to qualify as a patent-eligible process claim. As clarified in *Bilski*, The test for a method claim is whether the claimed method is (1) tied to a particular machine or apparatus, or (2) transforms a particular article to a different state or thing. This is called the "machine or-transformation test" (see at least *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
10. There are two corollaries to the machine-or-transformation test. First, a mere field-of-use limitation is generally insufficient to render an otherwise ineligible method claim patent eligible. This means the machine or transformation must impose meaningful limits on the method claim's scope to pass the test. Second, insignificant extra-solution activity will not transform an unpatentable principle into a patentable process. This means reciting a specific machine or a particular transformation of a specific article in an insignificant step, such a data gathering or outputting, is not sufficient to pass the test.
11. Nominal recitations of structure in an otherwise ineligible method fail to make the method a statutory process. See *Benson*, 409 U.S. at 71-72. As *Comiskey* recognized, "the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter." *Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir.1989)). Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one. Claims 2-14 inherit the same deficiencies as claim 1 and are therefore rejected for the same reasons as claim 1.

12. Incidental physical limitations, such as data gathering, field of use limitations, and post-solution activity are not enough to convert an abstract idea into a statutory process. In other words, nominal or token recitations of structure in a method claim do not convert an otherwise ineligible claim into an eligible one. Claims 2-14 inherit the same deficiencies as claim 1 and are therefore rejected for the same reasons as claim 1.

#### **Response to Arguments**

13. Applicant's arguments received on 5 November 2008 have been fully considered but they are not persuasive.
14. With regard to the limitations of claims 1-8 and 10-22, Applicant argues that specifically the prior art of record, that Blume and (1) *the cited references, taken alone or in combination, do not teach or teaches "a method of predicting outcomes of marketing campaigns comprising at least a first campaign step directed to a first target group and a second campaign step directed to a second target group, wherein the second target group is a subset of the first target group and the campaign steps are to be performed consecutively,"* (page 8, third paragraph), that (2) *none of the cited references teach or teaches using multiple campaign steps directed at multiple target groups performed consecutively in order to predict the success of a marketing campaign before performing the steps of the campaign* (page 8, third paragraph); that (3) *[n]owhere does Blume teaches that multiple campaign steps are analyzed in combination for purposes of predicting the outcome of success of performing one or more campaign steps on multiple subsets of consumers* (page 9, first paragraph); that (4) *Blume does not disclose or teaches at least the steps of "selecting the second target group" and "predicting an outcome of performing also the second campaign step . . ."* (page 9, third paragraph) and that (5) *Blume, Samra and Lin do not disclose multiple ad campaign steps directed to multiple target groups, performed consecutively, for the purpose of predicting successful marketing campaign* (page 9, third paragraph).
15. In response to applicant's arguments (1), the recitation *"a method of predicting outcomes of marketing campaigns comprising at least a first campaign step directed to a first target group and a second campaign step directed to a second target group, wherein the second target group is a*

*subset of the first target group and the campaign steps are to be performed consecutively*" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

16. In response to Applicant's argument (2). Examiner respectfully disagrees. Please see the updated rejection below as necessitated by amendments. Further, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *in order to predict the success of a marketing campaign before performing the steps of the campaign*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
17. In response to Applicant's argument (3). Examiner respectfully disagrees. Please see the updated rejection below as necessitated by amendments.
18. In response to Applicant's argument (4). Examiner respectfully disagrees. Please see the following passage of Blume for the step of "selecting the second target group": Figure 14 which illustrates a flowchart for predicting a response rate for a consumer with regard to a particular offer (e.g., marketing campaigns), column 44 lines 58-67 and column 45 lines 3-5: which teaches that "the technique shown in FIG. 14 can be applied to predicting other types of market value associated with identifiable consumers" (e.g., second target group) which it is implicitly disclosed that using the same technique with "the consumers in the reference set" (e.g., first target group) "having known response rates to offers (or having other characteristics that are known to be related to or good predictors of response rates)" will determine a new target group (e.g., a second target group) with predictive number of response.

Blume teaches that by selecting a second target group, this second target group will have good predictors of responses from a previous marketing campaign step, since "[t]he reference set typically includes consumers who have been presented with an offer and given a chance to respond" therefore a second target group is selected from previous predicted responses (e.g., response probabilities from the first target group) because "the available data provides some degree of predictive accuracy concerning the likelihood of a positive response to an offer." Further, please see the updated rejection below as necessitated by amendments for the step of "predicting an outcome of performing also the second campaign step".

19. In response to Applicant's argument (5). Examiner respectfully disagrees. Please see the updated rejection below as necessitated by amendments. Further, In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., *multiple ad campaign steps*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

#### **Claim Rejections - 35 USC § 103**

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims 1, 5-8, 15-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al., (US 6,839,682 B1), hereinafter "Blume".

#### **Claims 1 and 22:**

Blume as shown discloses a method and a computer software product for predicting outcomes of marketing campaigns, the method and the computer software product comprising:

- *at least a first campaign step directed to a first target group and a second campaign step directed to a second target group, wherein the second target group is a subset of the first target group and the campaign steps are to be performed consecutively* (column 44, lines 59-60, which teaches that the technique “can be applied to predicting other types of market value associated with identifiable consumers” and column 45-46, lines 65-67 and 1-9, respectively, which Blume teaches that “the nearest-neighbor response rate may be fused with other data for more advanced analysis. For example, the aggregated response rate could be provided as an input to a second-level predictive model, along with other input data” where Blume teaches that after predicting a response rate (e.g., first campaign step), this response rate results are the input for a second-level predictive model (e.g., second campaign step), therefore “[t]he second-level predictive model could be trained on the input data, using techniques known in the art, in order to improve response prediction accuracy for target consumers. Thus, the second-level predictive model would learn relationships among aggregated response rates and other input data, in order to generate a second-level predicted response rate that yields improved results”);
- *determining a response probability for each of a plurality of customers in the first target group, regarding the/a first campaign step directed to the first target group of a marketing campaign, the customers being intended targets of the marketing campaign* (Figure 14 which it illustrates a flowchart for predicting a response rate for a consumer with regard to a particular offer (e.g., marketing campaigns step), column 7 lines 26-28, column 44 lines 62-67 and column 45 lines 10-14: which teaches that “the consumers in the reference set having known response rates to offers (or having other characteristics that are known to be related to or good predictors of response rates). The reference set typically includes consumers who have been presented with an offer and given a chance to respond” where each



customer (e.g., first target group of the marketing campaign) have a known response probability. Furthermore, Blume teaches that [o]nce the set of reference consumers has been established" it obtains "a consumer vector for each consumer in the reference set, as well as a value describing the known or predicted response rate relevant to the offer being analyzed" therefore if the response probability is not known Blume "employs nearest-neighbor techniques to predict responses to offers or other marketing-related value" (e.g., a first campaign step));

- *determining a response value for each of the customers in the first target group regarding the first campaign step that indicates a predicted value of a response to the first campaign step of the marketing campaign by the customer;* (column 7 lines 32-34 and column 45, lines 37-44: which teaches that "[e]ach consumer in the reference set has a vector and a value describing the known or predicted response rate relevant to the offer being analyzed." Blume teaches that each consumer (e.g., first target group) has a known or predicted response rate related to an offer (e.g., first campaign step). Furthermore, Blume teaches that "[t]he response rate among the nearest neighbors is aggregated **1405** and used as a predictor" (e.g., a predicted value) of the likely response rate for the target consumer. For example, for the consumers in the nearest-neighbor set, the system determines the ratio of those who responded positively to those who responded negatively (or did not respond at all)" (e.g., a response value). "[t]his ratio is the target consumer's score with respect to the offer, and may be provided as output **1406** by the system.");
- *and predicting an outcome of first campaign step of the marketing campaign using the response probability and the response value* (column 7 lines 37-43 and column 45, lines 39-44: which teaches that "[t]he response rate among the nearest neighbors is aggregated and used as a predictor of the likely response rate for the target consumer. Based on this score for a number of potential target consumers, the marketing effort can be targeted at those consumers most likely to respond

favorably, thus improving the efficiency of the marketing campaign.” Furthermore, Blume teaches that “the system determines the ratio of those who responded positively to those who responded negatively (or did not respond at all). This ratio is the target consumer’s score with respect to the offer (e.g., an outcome of first campaign step), “and may be provided as output **1406** by the system.”);

- *using the response probabilities for the plurality of customers to predict a number of responses to be received if the first campaign step were performed toward the plurality of customers* (Figure 13, which it illustrates a block diagram showing an example of response prediction (e.g., number of predicted responses) using a predictive model (e.g., response probabilities), column 7, lines 26-34, and column 43 lines 27-60, which teaches that “[t]he predictive model may also be trained to predict spending at vendors, responses to particular offers” (e.g., first campaign step) “or other marketing schemes, and the like,” where the “training set **1301** contains data describing customers who have previously been presented with the offer,” (e.g., response probabilities) “including customers who accepted the offer (positive exemplars) and customers who rejected the offer (negative exemplars).” Furthermore, Blume “employs nearest-neighbor techniques to predict responses to offers or other marketing-related value” (e.g., a first campaign step) based on known response rates to offers which “[e]ach consumer in the reference set” (e.g., plurality of customers) “has a vector and a value describing the known or predicted response rate relevant to the offer being analyzed.”);
- *selecting the second target group of customers from the first target group using the response probabilities, the second target group being substantially equal to the predicted number of responses* (Figure 14 which illustrates a flowchart for predicting a response rate for a consumer with regard to a particular offer (e.g., marketing campaigns), column 44 lines 58-67 and column 45 lines 3-5: which teaches that “the technique shown in FIG. 14 can be applied to predicting other

types of market value associated with identifiable consumers” (e.g., second target group) which it is implicitly disclosed that using the same technique with “the consumers in the reference set” (e.g., first target group) “having known response rates to offers (or having other characteristics that are known to be related to or good predictors of response rates)” will determine a new target group (e.g., a second target group) with predictive number of response. Blume teaches that by selecting a second target group, this second target group will have good predictors of responses from a previous marketing campaign step, since “[t]he reference set typically includes consumers who have been presented with an offer and given a chance to respond” therefore a second target group is selected from previous predicted responses (e.g., response probabilities from the first target group) because “the available data provides some degree of predictive accuracy concerning the likelihood of a positive response to an offer.”);

- *and predicting an outcome of performing also the second campaign step toward the target group after the first campaign step, wherein the second target group is a subset of the first target group* (Figure 14 which illustrates a flowchart for predicting a response rate for a consumer with regard to a particular offer (e.g., marketing campaigns), column 7 lines 37-43, column 45-46 lines 67 and 1-9, respectively and column 44, lines 66-67 and column 45 lines 3-5, respectively: Blume teaches that the first campaign step is performed before the second campaign step in order to predict an outcome, “[f]or example, the aggregated response rate could be provided as an input to a second-level predictive model,” (e.g., second campaign step) “along with other input data (such as demographic information, for example)” where Blume teaches that after predicting a response rate (e.g., first campaign step), this response rate results are the input for a second-level predictive model (e.g., second campaign step), therefore, “[t]he second-level predictive model could be trained on the input data, using techniques known in the art, in order to improve response

prediction accuracy for target consumers. Thus, the second-level predictive model would learn relationships among aggregated response rates and other input data, in order to generate a second-level predicted response rate that yields improved results.)". Furthermore, Blume teaches that "[t]he response rate among the nearest neighbors is aggregated and used as a predictor of the likely response rate for the target consumer. Based on this score for a number of potential target consumers, the marketing effort can be targeted at those consumers most likely to respond favorably, thus improving the efficiency of the marketing campaign.". Further, Blume teaches that by selecting a second target group, this second target group will have good predictors of responses from a previous marketing campaign step, since "[t]he reference set" (e.g., first target group) "typically includes consumers who have been presented with an offer and given a chance to respond" therefore a second target group is a subset from previous predicted responses (e.g., response probabilities from the first target group) because "the available data provides some degree of predictive accuracy concerning the likelihood of a positive response to an offer.";

It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the teaching and techniques of Blume to perform multiple campaign steps in order to predict an outcome from each campaign steps on multiple subsets of consumers because it "can be applied to predicting other types of market value associated with identifiable consumers" (Blume, column 44, lines 59-60). Further, Blume enables to predict responses based on "consumers" (e.g., first and second target group) "who have been presented with an offer and given a chance to respond" (Blume, column 44, lines 66-67) where "the nearest-neighbor response rate may be fused with other data for more advanced analysis. For example, the aggregated response rate could be provided as an input" (e.g., previous response from a campaign step) "to a second-level predictive model" (e.g., second campaign step), "along with other input data" where Blume teaches that after predicting a response rate (e.g., first campaign step), this response rate results are the input for a second-level predictive model (e.g., second campaign step), therefore "[t]he

second-level predictive model could be trained on the input data, using techniques known in the art, in order to improve response prediction accuracy for target consumers. Thus, the second-level predictive model would learn relationships among aggregated response rates and other input data, in order to generate a second-level predicted response rate that yields improved results” (Blume, column 45-46, lines 65-67 and 1-9). Therefore, “[t]he response rate among the nearest neighbors is aggregated and used as a predictor of the likely response rate for the target consumer” (e.g., first and second target group). “[b]ased on this score for a number of potential target consumers, the marketing effort can be targeted at those consumers most likely to respond favorably, thus improving the efficiency” (e.g., the outcome of success) “of the marketing campaign” (Blume, column 7, lines 37-43).

**Claim 15:**

The limitations of claim 15 encompass substantially the same scope as claim 1. Accordingly, those similar limitations are rejected in substantially the same manner as claim 1, as described above. The following are the limitations of claim 15 that differ from claim 1.

Blume as shown discloses a system for predicting outcomes of marketing campaigns, the system comprising:

- *program instructions tangibly embodied in a computer-readable medium and comprising a response prediction module that, when executed by a processor, (see at least Figure 5: “Predictive Model Generation System”);*
- *and predicts a number of responses to be received if the first campaign step were performed toward the plurality of customers (Figure 13, which it illustrates a block diagram showing an example of response prediction (e.g., number of predicted responses) using a predictive model (e.g., response probabilities), column 7, lines 26-34, and column 43 lines 27-60, which teaches that “[t]he predictive model may also be trained to predict spending at vendors, responses to particular offers” (e.g., first campaign step) “or other marketing schemes, and the like,” where the “training set 1301 contains data describing customers who have previously been presented*

with the offer,” (e.g., response probabilities) “including customers who accepted the offer (positive exemplars) and customers who rejected the offer (negative exemplars).” Furthermore, Blume “employs nearest-neighbor techniques to predict responses to offers or other marketing-related value” (e.g., a first campaign step) based on known response rates to offers which “[e]ach consumer in the reference set” (e.g., plurality of customers) “has a vector and a value describing the known or predicted response rate relevant to the offer being analyzed.”);

- *and program instructions tangibly embodied in a computer-readable medium and comprising an evaluation module that, when executed by a processor, (see at least Figure 3 reference number 312 “Account/Segment Analysis” and Figure 14, reference number 1405 “Determine Response Rate for Nearest Neighbors and Figure 5: “Predictive Model Generation System”);*
- *and that predicts an outcome of the marketing campaign using the response probability and the response value (column 7 lines 37-43 and column 45, lines 39-44: which teaches that “[t]he response rate among the nearest neighbors is aggregated and used as a predictor of the likely response rate for the target consumer. Based on this score for a number of potential target consumers, the marketing effort can be targeted at those consumers most likely to respond favorably, thus improving the efficiency of the marketing campaign.” Furthermore, Blume teaches that “the system determines the ratio of those who responded positively to those who responded negatively (or did not respond at all). This ratio is the target consumer’s score with respect to the offer (e.g., an outcome of first campaign step), “and may be provided as output **1406** by the system.”);*
- *and program instructions tangibly embodied in a computer-readable medium and comprising an assignment module that, when executed by a processor (see at least Figure 11A-11C and 12A-12C which they illustrates an example of segment vector adjustment and column 15, lines 19-24, which Blume teaches that “[i]f, in **1006**, the*

selected segment does correspond to the segment label that has been assigned to the merchant, zero or more segment vectors are adjusted **1010**. Either the segment vectors are left unchanged, or in an alternative embodiment, the assigned segment vector is moved closer to the merchant vector" where Blume teaches an assignment module);

**Claims 5 and 16:**

Blume discloses the limitations of Claims 1 and 15, as shown above. Furthermore, Blume discloses the following limitation as shown:

- *wherein the response value is determined using a purchase history of the customer (see at least column 36, lines 31-34: "... the membership function computes the membership value for each segment as the predicted dollar amount that the account holder will purchase in the segment given previous purchase history.");*

**Claim 6:**

Blume discloses the limitations of Claim 1, as shown above. Furthermore, Blume discloses the following limitation as shown:

- *wherein a purchase history is not available for a customer, further comprising identifying at least one similar customer for which a purchase history is available and using the at least one similar customer's purchase history to determine the response value (see at least column 45, lines 5-9: "For example, if response history data is unavailable, the system might instead use a sample of consumers, and consider those who have purchased the product to have accepted the offer, and those who have not purchased the product to have rejected the offer.");*

**Claim 7:**

Blume discloses the limitations of Claim 1, as shown above. Furthermore, Blume discloses the following limitation as shown:

- *wherein the marketing campaign is to be directed also at additional customers for which no response value is determined, further comprising using a default response*

*value for the additional customers in predicting the outcome of the marketing campaign. (see at least column 10, lines 29-34: "...useful statistics can be generated for the segment, such as average amount spent, spending rate, ratios of how much these consumers spend in the segment compared with the population average, response rates to offers, and so forth. This information enables merchants to finely target and promote their products to the appropriate consumers.");*

**Claims 8 and 19:**

Blume discloses the limitations of Claims 7 and 18, as shown above and below. Furthermore, Blume discloses the following limitation as shown:

- *wherein the default response value is an average determined from responses to past marketing campaigns. (see at least column 10, lines 29-32: "... useful statistics can be generated for the segment, such as average amount spent, spending rate, ratios of how much these consumers spend in the segment compared with the population average, response rates to offers, and so forth.");*

**Claim 17:**

Blume discloses the limitations of Claim 15, as shown above. Furthermore, Blume discloses the following limitation as shown:

- *wherein a purchase history is not available for a customer, wherein the response value is determined using a purchase history of at least one similar customer (see at least column 45, lines 5-9: "For example, if response history data is unavailable, the system might instead use a sample of consumers, and consider those who have purchased the product to have accepted the offer, and those who have not purchased the product to have rejected the offer.");*

**Claim 18:**

Blume discloses the limitations of Claim 15, as shown above. Furthermore, Blume discloses the following limitation as shown:



- *wherein the marketing campaign is to be directed also at additional customers for which no response value is determined, and wherein the evaluation module (see at least Fig. 3, reference number 312: "Account/Segment Analysis")*
- *uses a default response value for the additional customers in predicting the outcome of the marketing campaign (see at least column 10, lines 29-32: "... useful statistics can be generated for the segment, such as average amount spent, spending rate, ratios of how much these consumers spend in the segment compared with the population average, response rates to offers, and so forth. This information enables merchants to finely target and promote their products to the appropriate consumers");*

**22.** Claims 2-4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al., (US 6,839,682 B1), hereinafter "Blume" as applied to claims 1, 5-8, 15-19 and 22 as shown above, in view of Fisher et al (US 2002/0052775 A1), hereinafter "Fisher".

**Claim 2:**

Blume discloses the limitations of Claim 1, as shown above. Blume does not disclose the following limitation, but Fisher however, as shown, does:

- *wherein the predicted value is at least one selected from the group consisting of predicted revenue from the customer and predicted profit from the customer (see at least page 4, ¶ 0038: "...to determine the plan's effectiveness and/or practicality. For example, the number of sales due to the marketing plan and the costs per impression can be electronically projected and modeled against the sales goals to determine optimal marketing effectiveness.");*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting a value with the method of Fisher using sales total value from a marketing plan, because in order to "predict future spending of an individual consumer" (see at least Blume, column 2, lines 45-46) for marketing campaigns, it is useful to know the customer "behavior based on actual historical spending patterns" (see at least

Blume, column 2, lines 41-42) since this will “increase the marketing plan’s effectiveness (percent of target audience reached)” and “speed the implementation of the marketing plan” (see at least Fisher, page 1, ¶ 0006).

**Claim 3:**

Blume discloses the limitations of Claim 1, as shown above. Blume does not disclose the following limitation, but Fisher however, as shown, does:

- *wherein the predicted value is a predicted response cost associated with the customer.* (see at least page 4, ¶ 0038: “...to determine the plan's effectiveness and/or practicality. For example, the number of sales due to the marketing plan and the costs per impression can be electronically projected and modeled against the sales goals to determine optimal marketing effectiveness.”);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting a value with the method of Fisher using cost total value from a marketing plan, because in order to minimize marketing campaigns cost is necessary to know the customer “behavior based on actual historical spending patterns” (see at least Blume, column 2, lines 41-42) and “the interests of preferences of consumers” (see at least Blume, column 3, lines 56-57) since this “could reduce a marketing plan's cost per impression, increase the marketing plan’s effectiveness (percent of target audience reached)” and “speed the implementation of the marketing plan” (see at least Fisher, page 1, ¶ 0006).

**Claim 4:**

Blume discloses the limitations of Claim 1, as shown above. Blume does not disclose the following limitation, but Fisher however, as shown, does:

- *wherein the predicted value is a predicted cost of contacting the customer in the marketing campaign* (see at least page 1, ¶ 0009: “...the software application of the present invention can predict, for example, the percent of the target audience that will be reached, the overall costs of implementing the marketing plan, and/or the chance of implementing the marketing plan in a timely manner.”);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting a value with the method of Fisher using a software application to predict the cost total value from a marketing plan, because in order to minimize marketing campaigns cost is necessary to know the customer "behavior based on actual historical spending patterns" (see at least Blume, column 2, lines 41-42) and "the interests of preferences of consumers" (see at least Blume, column 3, lines 56-57) since this "could reduce a marketing plan's cost per impression, increase the marketing plan's effectiveness (percent of target audience reached)" and "speed the implementation of the marketing plan" (see at least Fisher, page 1, ¶ 0006).

**Claim 10:**

Blume discloses the limitations of Claim 1, as shown above. Blume does not disclose the following limitation, but Fisher however, as shown, does:

- *wherein the target group initially is not equal to the predicted number of responses, further comprising adjusting the target group to be equal to the predicted number of responses. (See at least page 4, ¶ 0039: "This embodiment also allows the degree of optimization to be adjusted to focus on particular levels of the marketing plan.");*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting responses with the optimizer adjusting method of Fisher because "through a series of computerized, iterative steps using information about the defined goals of and the resources available to the marketing plan", (see at least Fisher page 4, ¶ 0039) will provide an optimal marketing campaign plan.

- 23.** Claim 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al., (US 6,839,682 B1), hereinafter "Blume" as applied to claims 1, 5-8, 15-19 and 22 as shown above, in view of Samra et al (US 7,003,476 B1), hereinafter "Samra".

**Claim 13:**

Blume discloses the limitations of Claim 1, as shown above. Furthermore, Blume discloses the following limitation as shown:

- *wherein the response value is determined* (see at least column 7 lines 32-34: which teaches that “[e]ach consumer in the reference set has a vector and a value describing the known or predicted response rate relevant to the offer being analyzed.”);

Blume does not disclose the following limitation, but Samra however, as shown, does:

- *for a particular marketing step in the marketing campaign.* (see at least Figure 9, reference number 104: which it illustrates “[u]sing data in a consumer database to determine a target group based on predicted customer profiles”);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicted a response value with the consumer database of Samra to determine a target group (i.e. a marketing step) because it will “optimized marketing campaign selections based on criteria selected from the consumer database” (see at least Samra, column 2, lines 61-63).

**Claim 14:**

Blume discloses the limitations of Claim 13, as shown above. Blume does not disclose the following limitation, but Samra however, as shown, does:

- *wherein the marketing step comprises contacting the customer by at least one selected from the group consisting of email,* (see at least column 6, lines 12-13: “...internet E-mail based campaigns...”);
- *website advertisement, letter, telephone, fax and personal contact.* (see at least column 3, lines 8-10: “...create a marketing program to best use such marketing resources as mailing, telemarketing, and internet online by allocating resources based on consumer's real value.”);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting an outcome of marketing campaign with the advertisement tools of Samra, which are well know in the advertisement industry because

these advertisement tools will persuade, inform or motivate the process of purchasing, supporting or approving the marketing campaigns offers.

- 24.** Claims 11-12 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blume et al., (US 6,839,682 B1), hereinafter "Blume" as applied to claims 1, 5-8, 15-19 and 22 as shown above, in view of Lin et al (US 6,847,934 B1), hereinafter "Lin".

**Claim 11:**

Blume discloses the limitations of Claim 1, as shown above. Blume does not disclose the following limitation, but Lin however, as shown, does:

- *wherein at least one campaign step in the marketing campaign comprises a plurality of alternative campaign elements, further comprising assigning the customers to the campaign elements using an optimizing algorithm.* (see at least, column 2 and 3, lines 66-67 and 1, respectively: which Lin teaches "...the market selection optimization method generally comprises the steps of assigning product offers to consumers such that each consumer is assigned at least one product offer");

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume/Samra technique of predicting responses from marketing campaigns with the Lin's marketing selection optimization method because it will provide "clients with the ability to effectively maximize profits in operations involving selling multiple products to multiple customers under the objective of maximizing the total profit to the client offering the products to customers." (See at least Lin, column 2, lines 55-59).

**Claim 12:**

The combination of Blume/Lin discloses the limitations of Claim 11, as shown above. Furthermore, Lin discloses the following limitation as shown:

- *wherein the optimizing algorithm assigns and reassigns the customers to the campaign elements while evaluating the predicted outcome of the marketing campaign, but does not reassign a customer to a campaign element to which the*

*customer has previously been assigned. (see at least column 2 and 3, lines 65-67 and 1-8, respectively: "...the market selection optimization method generally comprises the steps of assigning product offers to consumers such that each consumer is assigned at least one product offer; determining a difference in expected profitability associated with the assigned at least one product offer and a different product offer for each consumer; sorting the consumers according to the respective difference in expected profitabilities associated with the product offers; and reassigning the product offers to the sorted consumers in accordance with the respective difference in expected profitabilities.");*

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume/Samra technique of predicting responses from marketing campaigns with the Lin's marketing selection optimization method because it will provide "clients with the ability to effectively maximize profits in operations involving selling multiple products to multiple customers under the objective of maximizing the total profit to the client offering the products to customers." (See at least Lin, column 2, lines 55-59).

**Claim 20:**

Blume discloses the limitations of Claim 15, as shown above. Furthermore, Blume discloses the following limitation as shown:

- *the assignment module (see at least Figure 11A-11C and 12A-12C which they illustrates an example of segment vector adjustment and column 15, lines 19-24, which Blume teaches that "[i]f, in 1006, the selected segment does correspond to the segment label that has been assigned to the merchant, zero or more segment vectors are adjusted 1010 . Either the segment vectors are left unchanged, or in an alternative embodiment, the assigned segment vector is moved closer to the merchant vector" where Blume teaches an assignment module);*

Blume does not disclose the following limitation, but Lin however, as shown, does:

- *assigns the customers to the campaign elements using an optimizing algorithm.*  
(see at least, column 2 and 3, lines 66-67 and 1, respectively: "...the market selection optimization method generally comprises the steps of assigning product offers to consumers such that each consumer is assigned at least one product offer");

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting responses from marketing campaigns with the Lin's marketing selection optimization method because it will provide "clients with the ability to effectively maximize profits in operations involving selling multiple products to multiple customers under the objective of maximizing the total profit to the client offering the products to customers." (See at least Lin, column 2, lines 55-59).

**Claim 21:**

The combination of Blume/Lin discloses the limitations of Claim 20, as shown above. Blume does not disclose the following limitation, but Lin however, as shown, does:

- *wherein the assignment module* (see at least Fig. 3, reference number 305);
- *assigns and reassigns the customers to the campaign elements while evaluating the predicted outcome of the marketing campaign, but does not reassign a customer to a campaign element to which the customer has previously been assigned.* (see at least column 2 and 3, lines 65-67 and 1-8, respectively: "...the market selection optimization method generally comprises the steps of assigning product offers to consumers such that each consumer is assigned at least one product offer; determining a difference in expected profitability associated with the assigned at least one product offer and a different product offer for each consumer; sorting the consumers according to the respective difference in expected profitabilities associated with the product offers; and reassigning the product offers to the sorted consumers in accordance with the respective difference in expected profitabilities.");

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Blume technique of predicting responses from marketing campaigns with the Lin's marketing selection optimization method because it will provide "clients with the ability to effectively maximize profits in operations involving selling multiple products to multiple customers under the objective of maximizing the total profit to the client offering the products to customers." (See at least Lin, column 2, lines 55-59).

### **Conclusion**

- 25.** The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- Benthin et al., (US 2002/0035568 A1) disclose a method and apparatus supporting dynamically adaptive user interactions in a multimodal communication system.
  - Gorenstein, (US 2003/0009369 A1) disclose a system and method for composite customer segmentation.
  - Haas et al., (US 2003/0220773 A1) disclose a market response modeling.
  - DeSarbo et al., CRISP: Customer Response Based Iterative Segmentation Procedures for Response Modeling in Direct Marketing, *Journal of Direct Marketing*, Vol. 8, Summer 1994, disclose a system of empirical segmentation procedures called CRISP for simultaneously deriving market segments and estimating models of customer response in each of these segments.
  - Suh et al., Customer list segmentation using the combined response model, *Expert Systems with Applications*, Vol., 17, 1999, disclose a response model such as RFM (Recency, Frequency, Monetary), Logistic Regression, and Neural Networks estimate a single response model in direct marketing for segmenting and targeting customers.
  - Apte et al., Segmentation-Based Modeling for Advanced Targeted Marketing, ACM 2001, disclose how to build segmentation-based models more effectively so as to maximize predictive accuracy.



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- Peltier et al., The Use of Need-Based Segmentation for Developing Segment-Specific Direct Marketing Strategies, Journal of Direct Marketing, Vol., 11, Fall 1997, disclose a segmentation approach to targeting customer groups based on both needs underlying a purchase and descriptive buyer data.

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Nadja Chong** whose telephone number is **571.270.3939**. The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **BETH BOSWELL** can be reached at **571.272.6737**.

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